SECRET

## AES REPORT

A COMPARISON OF INTERNAL AND EXTERNAL CAREER
TRAINEES ON PATB TEST SCORES AND SUPERVISORS'
RATINGS OF CURRENT PERFORMANCE AND FUTURE
POTENTIAL

Prepared in Conjunction with the Task Force on Systems Analysis of Psychological Data Pertaining to Career Trainees

Office of Medical Services
Assessment and Evaluation Staff
June, 1969

SECRET

SUMMARY

This paper compared groups of Internal and External CTs on Professional Applicant Test Battery (PATB) scores and on supervisory ratings of performance and potential gathered by the Committee on Professional Manpower (Manpower Ratings). Groups of 326 External and 60 Internal male CTs who entered on duty during fiscal years 1963 through 1967 were compared on 76 PATB variables and six Manpower Ratings. Only seven statistically significant mean differences between the two groups of CTs emerged, and in all cases the absolute magnitude of the differences was not large. It was concluded that Internal and External CTs, on the average, do not differ to a significant degree on a wide variety of test performances and on supervisory ratings of job performance and potential.

# SECRET

Ž,

A COMPARISON OF INTERNAL AND EXTERNAL CAREER TRAINEES ON PATH TEST SCORES AND SUPERVISORS' RATINGS OF CURRENT PERFORMANCE AND FUTURE POTENTIAL

The purpose of this study was to compare the performances of Internal and External Career Trainees (CTs) on AES's Professional Applicant Test Battery (PATB), and on supervisors' ratings of job performance and potential obtained by the Committee on Professional Manpower. Comparisons of this type can help provide an answer to the frequently-asked question of whether Internal and External CTs differ, on the average, in important characteristics or qualities of relevance to the Agency.

## METHOD

All male CTs included in the survey of the Committee on Professional Manpower were included in this study. A total of 386 CTs were studied, of whom 326 were Externals and 60 were Internals. Females were excluded, since PATB contains slightly different tests (and test norms) for men and women. All 386 CTs entered on duty during fiscal years 1963 through 1967.

The	PATB	battery	of	tests	includes	

25X

25X1

SECRET

2

Professional Manpower (hereafter referred to as Manpower Ratings).

#### RESULTS

Table 1 presents a summary of the statistically significant differences which obtained between External and Internal CTs on PATB test scores and Manpower Ratings. Out of a total of 82 variables on which comparisons between Internal and External CTs were made (76 PATB scores and six Manpower Ratings), only seven statistically significant mean differences emerged; this small number of significant differences barely exceeds what could be expected through the operation of chance alone. It is apparent from this small number and pattern of statistically significant differences in Table 1 that the average PATB Test scores and Manpower Ratings of Internal and External CTs are remarkably similar. Furthermore, without exception, the magnitude of the average differences between Internals and Externals that were obtained in the seven instances of statistical significance was quite small. Overall, it may be concluded that Internal and External CTs obtain, on the average, remarkably similar PATB test scores and supervisory evaluations of job performance and potential.

<sup>&</sup>lt;sup>1</sup>A statistically significant mean difference is defined as an obtained difference between Internal and External CTs of a magnitude such that the probability is 95 (or more) of 100 that the obtained difference is "true," i.e., not due to sampling errors or other chance factors.

<sup>&</sup>lt;sup>2</sup>At the level of statistical significance applied in this study, the .05 level, 4.1 is the best estimate of the number of statistically significant differences to be expected by chance alone when statistical tests are performed on 82 variables on which no actual differences exist.

**Next 3 Page(s) In Document Exempt** 

SECRET

7

Supervisors' Ratings of Job Performance

5X1

In response to a request by the Committee on Professional Manpower, the CTs in this study were rated by their immediate supervisors on three aspects of their current job performance: their overall performance; the quantitative aspects of their performance (i.e., how much work they get done); and the qualitative aspects of their performance (i.e., the quality of their work). These ratings were not shown to the individuals who were rated, nor were they to be included in any official records. On all three of these ratings of job performance, the average ratings received by Internal and External CTs were virtually identical. On seven-point scales (Outstanding, Between Outstanding and Strong, Strong, Between Strong and Proficient, Proficient, Adequate, and Weak), the average ratings received by Internals and Externals on all three measures of current job performance fell approximately midway in the range between "Strong" and "Between Strong and Proficient." Clearly, the average rated job performances of Internal CTs and External CTs do not differ.

8

Supervisors' Ratings of Future Potential

4

The supervisors of the CTs in this study also produced ratings of their supervisees' future potential. (As with the ratings of job performance, these ratings were not shown to the individuals who were rated nor were they included in any official records.) Three separate ratings were to be produced for each individual. First, the supervisor rated overall potential on a five-point scale (Outstanding, Above Average, Average, Below Average, Weak). Next, each supervisor predicted (on a "yes-no" scale) whether his supervisee had the potential to eventually reach a senior level (GS-15) position in the Agency. Finally, each supervisor predicted whether his supervisee would eventually attain supergrade status (GS-16) in the Agency. Apparently some supervisors felt they did not have enough information to make predictions of their supervisees' potential to achieve senior level and supergrade status; of the 386 CTs in this study, no predictions of potential to achieve senior-level status were made for nine CTs and no predictions of potential to achieve supergrade status were made for 25 CTs.

On the five-point scale of overall potential, there was no significant difference between the average ratings received by the groups of Internal and External CTs. The average ratings for both groups fell slightly below "Above Average." There appeared to be a tendency (which just missed statistical significance) for a slightly larger percentage of External CTs to receive "Outstanding" ratings of overall potential; 12% of the External

9

but only 3% of the Internal CTs received ratings of "Outstanding."

Despite the finding of no significant difference between Externals and Internals in the ratings of overall potential, a significant difference was obtained in the percentages of Externals and Internals rated as having senior-level potential. Seventy-nine per cent of the External CTs were rated by their supervisors as having the potential to achieve GS-15; 66% of the Internals received this rating. A similar result obtained for the rating of supergrade potential. Whereas 37% of the External CTs were seen by their supervisors as having supergrade potential, 24% of the Internal CTs were seen as having supergrade potential. This difference between the percentages of Internals and Externals rated as having supergrade potential failed to attain statistical significance, however.

It thus appears that a slightly larger proportion of External CTs are seen by their supervisors as having the potential to advance to high levels (i.e., GS-15) within the Agency, despite the fact that Externals are not seen as doing a better job than Internals now (as reflected in the ratings of

This difference between the percentages of Externals and Internals rated as having supergrade potential, while numerically equal to the percentage difference between Externals and Internals rated as having senior-level potential, did not attain statistical significance; one reason for this apparent inconsistency is that the rating of supergrade potential was based on fewer cases. As was mentioned above, while nine CTs did not receive ratings of senior-level potential, 25 were not rated on supergrade potential. A second reason for this apparent inconsistency had to do with the nature of the distribution of ratings. The overall percentage of CTs rated as having supergrade potential was closer to 50% than was the overall percentage rated as having senior-level potential; the closer to "50-50 splits" sets of data of this type are, the larger the differences have to be before they reach statistical significance.

. 4

SECRET

10

overall performance) or as having greater overall potential than Internals (as reflected in the finding of no mean difference between Internals and Externals on the rating of overall potential).

### DISCUSSION

The main conclusion of this study is that Internal and External CTs do not differ, on the average, on a wide variety of tests and on supervisory ratings of job performance and potential. Even where statistically significant differences were found, the actual magnitude of these differences was never large; there was always a great deal of overlap of the distributions of scores received by Internals and Externals. And, as pointed out earlier, the number of statistically significant differences that were found exceeded by very little the number that would be expected by chance alone (due to sampling errors and random fluctuations in scores) if no actual differences existed between Internal and External CTs on any of the test measures and ratings of performance and potential on which the two groups were compared.

A particularly interesting finding involved the supervisory ratings of job performance and potential. Internal CTs did not receive lower average ratings on any of the measures of current job performance or on the rating of overall potential, yet significantly fewer Internal CTs were seen as having the potential to achieve senior-level (GS-15) status within the Agency. Although more than one possible explanation might be offered to explain this interesting phenomenon, the real reasons for it are not clear at this time.

SECRET

11

Finally, it is possible that External and Internal CTs do differ on important dimensions which are not measured by PATB test scores or supervisory ratings of performance and potential. This possibility can, of course, never be disproven. However, it does seem a bit unlikely that important differences between these two groups exist in view of the number and variety of test variables and supervisory ratings on which they were compared. This seems particularly true for the Manpower Ratings of performance and potential. While it could be argued that Internal and External CTs might differ on certain psychological measures not included in PATB, or perhaps not measurable by any test, it is unlikely that the Manpower Ratings of job performance and potential could be substantially improved upon for large samples of persons. ratings were obtained under quite favorable circumstances; they were made for research purposes only, they were not to be shown to the persons being rated, and they were designed in such a manner as to maximally reflect the degrees of differences among people. They were reasonably successful in reflecting differences among people; much greater "spread" of ratings was obtained in the Manpower Ratings than in the fitness reports for the same individuals.